

United States Government

Department of Energy

# memorandum

DATE: MAY 8 2003

REPLY TO

ATTN OF: EH-52:Peter O'Connell:3-5641

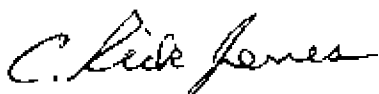
SUBJECT: REAFFIRMATION, WITH ERRATA, OF DEPARTMENT OF ENERGY (DOE) STANDARD,  
DOE-STD-1121-98, INTERNAL DOSIMETRY

TO: George Detsis  
Technical Standards Manager, EH-24

On February 11, 2003, a notice of intent to reaffirm several DOE standards, including DOE-STD-1121-98 was sent to the DOE Technical Standards Managers. The notice requested comments regarding the planned reaffirmation. All comments have been resolved. With the issuance of this reaffirmation memorandum and the attached errata sheets, DOE-STD-1121-98 is now considered to be technically valid. The Office of Worker Protection Policy and Programs recommends reaffirmation, with errata, of the standard in accordance with the Department's responsibility under the 5-year "Periodic Document Review" (Sunset Review) provision of the Technical Standards Program Procedures.

An electronic copy of the revised standard and a camera ready hardcopy of the revised page changes are attached. An errata sheet detailing the changes is also attached.

If you have any further questions in this matter, please contact Mr. Peter O'Connell on 3-5641 or at [Peter.O'Connell@eh.doe.gov](mailto:Peter.O'Connell@eh.doe.gov).



C. Rick Jones  
Director  
Office of Worker Protection Policy  
and Programs

3 Attachments

cc: D. Queener, ORNL

## Changes to DOE-STD-1121-98, Internal Dosimetry

Section/page/para	Change
iii	Change “Office of Worker Protection Programs and Hazards Management (EH-52)” to “Office of Worker Protection Policy and Programs (EH-52)”. Add to bottom “DOE is considering updating its requirements for assessing and recording internal dosimetry results. The update will make DOE’s system consistent with more recent national and international consensus standards. Should these changes be made, this standard will subsequently be updated to reflect these changes.”
2 1.4, 2nd para	Change “with potential” to “likely to receive”.
4 1.5	Change to read: To the extent possible, this guidance document is written to be consistent with existing non-governmental standards for internal dosimetry, including: <ul style="list-style-type: none"> <li>• ANSI N42.22-1999, <i>American National Standard–Traceability of Radioactive Sources to the National Institute of Standards and Technology (NIST) and Associated Instrument Quality Control</i></li> <li>• ANSI N42.23-1996, <i>Measurement and Associated Instrumentation Quality Assurance for Radioassay Laboratories</i></li> <li>• ANSI N323a-1997, <i>American National Standard for Radiation Protection Instrumentation Test and Calibration</i></li> <li>• ANSI Z88.2-1992, <i>American National Standard for Respiratory Protection</i>.</li> <li>• HPS N13.1-1999, <i>Guide to Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities</i></li> <li>• HPS N13.6-1999, <i>Practice for Occupational Radiation Exposure Records Systems</i></li> <li>• HPS N13.12-1999, <i>Surface and Volume Radioactivity Standards for Clearance</i></li> <li>• HPS N13.14-1994, <i>Internal Dosimetry Programs for Tritium Exposure, Minimum Requirements</i></li> <li>• HPS N13.22-1995, <i>Bioassay Programs for Uranium</i></li> <li>• HPS N13.30-1996, <i>Performance Criteria for Radiobioassay</i></li> <li>• HPS N13.39-2000, <i>Design of Internal Dosimetry Programs</i></li> <li>• HPS N13.42-1997, <i>Internal Dosimetry for Mixed Fission and Activation Products</i>.</li> </ul>
20 3, last para	Delete “ DOE Order N 441.1 (DOE 1995) or”.

<p>29 4, 1<sup>st</sup> para</p> <p>2<sup>nd</sup> para</p> <p>4.1</p>	<p>Change “DOE sites should strive to comply with Draft ANSI N13.39, “Design of Internal Dosimetry Programs - Minimum Acceptable Requirements” (HPS 1996c)”</p> <p>to “DOE sites should strive to comply with ANSI N13.39, “Design of Internal Dosimetry Programs ” (HPS 2000)”.</p> <p>Delete “Draft”.</p> <p>Change “10 CFR 835.209(c)” to “10 CFR 835.209(b)”.</p> <p>Change “based on representative air concentration values” to “based on air concentration values”.</p> <p>Add to end “It may also include routine bioassay for isotopes with high dose per intake coefficients, such as many of the transuranics.”</p>
<p>30 2<sup>nd</sup> para</p> <p>4<sup>th</sup> para, end</p>	<p>Change “DOE Office of Worker Protection and Hazards Management has prepared”</p> <p>to “DOE Office of Worker Protection Policy and Programs (previously the Office of Worker Protection and Hazards Management) prepared”.</p> <p>Delete extra quotation mark.</p>
<p>39 4.4.4, 1<sup>st</sup> sentence</p>	<p>Change “potential” to “likelihood”.</p>

43 4.4.6, 1 <sup>st</sup> sentence	Change “Bioassay laboratories or service laboratories should participate in the U.S. Department of Energy Laboratory Accreditation Program (DOELAP) for radiobioassay laboratories (DOE 1998b). Bioassay laboratories or service laboratories should meet the requirements of HPS N13.30-1996, “Performance Criteria for Radiobioassay” (HPS 1996a). ” to “10 CFR 835.402 requires internal dose monitoring programs implemented to demonstrate compliance with 10 CFR 835 be accredited by the U.S. Department of Energy Laboratory Accreditation Program (DOELAP) for Radiobioassay (DOE 1998a). Radiobioassay laboratories utilized by the internal dose monitoring programs will be evaluated against the requirements of the “Department of Energy Laboratory Accreditation Program for Radiobioassay” (DOE 1998b) which incorporates the recommendations of HPS N13.30-1996, “Performance Criteria for Radiobioassay” (HPS 1996a).”
Example 4.7 1 <sup>st</sup> para	Change “N13.30-1966” to “N13.30-1996”.
3 <sup>rd</sup> para	Change “The radiobioassay laboratory (if required by 10 CFR 835) shall participate in any laboratory quality assurance programs that may be offered by the DOE” to “The radiobioassay laboratory shall participate in the DOELAP for Radiobioassay”.
5 <sup>th</sup> para	Delete ”which complies with applicable sections of DOE Order 5700.6C (or current version)“.
44 3 <sup>rd</sup> para	Change “N13-30-1966” to “N13-30-1996”.
45 last para in example	Change “N13-30-1966” to “N13-30-1996”. 2 times
49 5.1, 1 <sup>st</sup> sentence	Change “dose evaluation” to “dosimetry”.
50 1 <sup>st</sup> para	Change “putonium” to “plutonium”.
53 Criterion 7	Change “There are two options available for record-keeping if bioassay is never obtained: 1) ignore annual accumulations less than 40 <i>DAC</i> -h, or 2) provide intake and dose assessments based solely on <i>DAC</i> -h.” to “For this situation, sites should still provide intake and dose assessments based solely on <i>DAC</i> -h.”
72 last line	Change “ICRP (1982a ¶120, 1988 ¶79)” to “ICRP (1982, 1988)”.

74 After Eq 19.	Change “Figure 6” to “Figure 7”.
75	Top 2 lines from page 76 moved to bottom of page.
76 Last sentence	Change “10 CFR 835.403(a)(1)” to “10 CFR 835 Appendix A”.
91 8.2, 1 <sup>st</sup> sentence	Delete “and in DOE N441.1 (1995)”.
92 8.2.2, 1 <sup>st</sup> sentence	Delete “required by DOE N441.1 (DOE 1995),”.
95 9, 3 <sup>rd</sup> para.	Change “(ANSI 1989)” to “(HPS 1999c)”.
98 9.7.	Change “(ANSI 1989)” to “(HPS 1999c)”.
104 3 <sup>rd</sup> and 4 <sup>th</sup> para.	<p>Change “REAC/TS maintains a 24-hour emergency contact list, which can be reached by phone at (423) 576-3131 from 8 am to 4:30 pm Eastern Time and at other times, (423) 481-1000 (Methodist Medical Center switchboard; ask for REAC/TS staff person on call). ”</p> <p>“As of September 1996, physicians can register as IND co-investigators by contacting the REAC/TS DTPA program, Ronald E. Goans, M.D., Head of Medical Section, at (423) 576-4049.”</p> <p>to “REAC/TS maintains a 24-hour emergency contact list, which can be reached by phone at (865) 576-3131 from 8 am to 4:30 pm Eastern Time and at other times, (865) 576-1005 (DOE Oak Ridge Operations Emergency Operations Center). ”</p> <p>“As of September 1996, physicians can register as IND co-investigators by contacting the REAC/TS DTPA program, Patrick Lowry, M.D., Head of Medical Section, at (865) 576-4049.”</p>
106 11.1, 1 <sup>st</sup> sentence.	Change “1996c” to “2000”.
107 3 <sup>rd</sup> para, 2 <sup>nd</sup> sentence.	Delete “, according to ANSI/ANS N10.4-1987 (ANSI 1987),”.

108-111	Delete 1 <sup>st</sup> reference, rename and move 2 <sup>nd</sup> and 5 <sup>th</sup> as HPS standards with new dates to 111, revise date on 4 <sup>th</sup> . Revise HPS Draft N13.12 and N13.39.
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